

Notice of Allowability

Application No.

09/945,448

Examiner

Chih-Ching Chow

Applicant(s)

BRUNNER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/17/06.
2. ☒ The allowed claim(s) is/are 1-10, 12-30, 32-68 and 70-78.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 5/1/06
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 1/18/07
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Examiner's Amendment and Statement of Reasons for Allowance

1. This action is responsive to Applicant's amendment filed on October 17, 2006.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Jonathan N. Geld, Registration Number 44,702, on January 18, 2007 for obviating any potential 101 issues and put the claims in condition for allowance.

The application has been amended as follows:

1. **(Currently Amended)** A computer-implemented method comprising:
generating a customizable product configurator, said generating comprising
creating a customizable product class, wherein
the customizable product class comprises a set of one or more
attributes to define the customizable product class;
adding a component product class to the customizable product class,
wherein
the component product class is a subclass of the customizable
product class, and
the component product class comprises customizable class rules;
and
mapping a customizable user interface (UI) to the customizable product
class, wherein

the customizable UI provides an access structure to the customizable product configurator,
elements of the customizable UI access structure correspond to elements of the customizable product class,
the customizable product class is configured to represent a customizable consumer product, and
the component product class is configured to represent one or more components of the customizable consumer product.

2. (Original) The method of claim 1 wherein the component product class includes component product subclasses.

3. (Original) The method of claim 1 wherein the component product class inherits the attributes of the customizable product class.

4. (Previously Presented) The method of claim 1 wherein said generating further comprises:
adding one or more component product classes to a port; and
adding the port to the customizable product class, wherein
the port allows the configurator to classify a group of component products.

5. (Previously Presented) The method of claim 4, wherein
the port comprises a cardinality attribute, and
the cardinality attribute constrains the number of component products to be added
by the configurator.

6. (Previously Presented) The method of claim 5, wherein

the cardinality attribute comprises a minimum cardinality and a maximum cardinality,

the minimum cardinality constrains the minimum number of component products to be added by the configurator, and

the maximum cardinality constrains the maximum number of component products to be added by the configurator.

7. (Previously Presented) The method of claim 5, wherein the cardinality attribute comprises a default cardinality, and the default cardinality defines a quantity of the component product class added by the configurator.

8. (Previously Presented) The method of claim 1 wherein the mapping comprises:
building the customizable UI from a set of themes, groups, and controls.

9. (Previously Presented) The method of claim 8 wherein a theme of the set of themes, groups, and controls comprises one or more of tabs and wizards.

10. (Previously Presented) The method of claim 8 wherein each theme in the set of themes, groups, and controls comprises at least one of the set of background colors, fonts, and multi-linguals.

11. (Canceled)

12. (Previously Presented) The method of claim 8 wherein a control of the set of themes, groups, and controls comprises one or more of a drop down box, a radio button, and a list box.

13. (Previously Presented) The method of claim 1 further comprising:
generating a user interface for the component product class using the customizable
UI.
14. (Previously Presented) The method of claim 1 wherein the customizable UI
is a subclass of the customizable product class.
15. (Previously Presented) The method of claim 1 further comprising:
generating a configurator user interface with HTML, Applets, and ActiveX
programming languages, wherein
said generating uses the customizable UI.
16. (Previously Presented) The method of claim 1, wherein
the component product class comprises a static attribute, and
the static attribute is not associated with a parent class.
17. (Currently Amended) The method of claim 1 wherein the component
product class, customizable class rules, and customizable UI ~~class~~ are object oriented
classes.
18. (Original) The method of claim 1 wherein the customizable product has an
object oriented structure.
19. (Original) The method of claim 1 wherein the customizable product
includes versioning.
20. (Original) The method of claim 1 wherein the configurator is stored in a
data store.

21. (Currently Amended) A computer-readable storage machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause the set of processors to perform operations comprising:

generating a customizable product configurator, said generating comprising
creating a customizable product class, wherein

the customizable product class comprises a set of one or more
attributes to define the customizable product class;

adding a component product class to the customizable product class,
wherein

the component product class is a subclass of the customizable
product class, and

the component product class comprises customizable class rules;

and

mapping a customizable UI to the customizable product class, wherein

the customizable UI provides an access structure to the configurator,
elements of the customizable UI access structure correspond to
elements of the customizable product class,

the customizable product class is configured to represent a
customizable consumer product, and

the component product class is configured to represent one or more
components of the customizable consumer product.

22. (Currently Amended) The computer-readable storage machine-
~~readable~~ medium of claim 21 wherein the component product class includes component
product subclasses.

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23. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 wherein the component product class inherits the attributes of the customizable product class.

24. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 further provides instructions that cause the set of processors to perform operations comprising:

adding one or more component product classes to a port; and

adding the port to the customizable product class, wherein

the port allows the configurator to classify a group of component products.

25. (Currently Amended) The computer-readable storage machine-readable medium of claim 24, wherein

the port comprises a cardinality attribute, and

the cardinality attribute constrain the number of component products to be added by the configurator.

26. (Currently Amended) The computer-readable storage machine-readable medium of claim 25, wherein

the cardinality attribute comprises a minimum cardinality and a maximum cardinality,

the minimum cardinality constrains the minimum number of component products to be added by the configurator, and

the maximum cardinality constrains the maximum number of component products to be added by the configurator.

27. (Currently Amended) The computer-readable storage machine-readable medium of claim 25, wherein

the cardinality attribute comprises a default cardinality, and
the default cardinality defines a quantity of the component product class added by
the configurator.

28. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 further providing instructions for the mapping comprising:
building the customizable UI from a set of themes, groups, and controls.

29. (Currently Amended) The computer-readable storage machine-readable medium of claim 28 wherein a theme of the set of themes, groups, and controls
comprises one or more of tabs and wizards.

30. (Currently Amended) The computer-readable storage machine-readable medium of claim 28 wherein a theme of the set of themes, groups, and controls
comprises one or more of background colors, fonts, and multi-linguals.

31. (Canceled)

32. (Currently Amended) The computer-readable storage machine-readable medium of claim 28 wherein a control of the set of themes, groups, and
controls comprises one or more of a drop down box, a radio button, and a list box.

33. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 that further provides instructions causing the set of
processors to perform operations comprising:
generating a user interface for the component product class using the customizable
UI.

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34. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 wherein the customizable UI is a subclass of the customizable product class.

35. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 that further provides instructions causing the set of processors to perform operations comprising:

generating a configurator user interface with HTML, Applets, and ActiveX programming languages, wherein
said generating uses the customizable UI.

36. (Currently Amended) The computer-readable storage machine-readable medium of claim 21, wherein

the component product class comprises a static attribute, and
the static attribute is not associated with a parent class.

37. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 wherein the component product class, customizable class rules, and customizable UI ~~class~~ are object oriented classes.

38. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 wherein the customizable product has an object oriented structure.

39. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 wherein the customizable product includes versioning.

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40. (Currently Amended) The computer-readable storage machine-readable medium of claim 21 wherein the configurator is stored in a data store.

41. (Currently Amended) An object oriented configurator comprising:

a processor;

a memory coupled to the processor;

a customizable product class stored in the memory;

a component product class, wherein

the component product class is a subclass of the customizable product class,

, and

the component product class comprises customizable class rules; and

the component product class inherits a set of one or more attributes from

the customizable product class; and

a customizable UI, wherein

the customizable UI is mapped to the customizable product class providing

a view of the component product,

the customizable UI provides an access structure,

the customizable product class is configured to represent a customizable

~~consumer~~ product, and

the component product class is configured to represent one or more

components of the customizable ~~consumer~~ product.

42. (Previously Presented) The object oriented configurator in claim 41 further comprising:

a port comprising a set of one or more component products of the component product class.

43. (Previously Presented) The object oriented configurator in claim 42, wherein

the port comprises a cardinality, and
the cardinality constrains the number of component products to add to the customizable product class.

44. (Previously Presented) The object oriented configurator in claim 43, wherein

the cardinality attribute comprises a minimum cardinality and a maximum cardinality,
the minimum cardinality constrains the minimum number of component products to be added by the configurator, and
the maximum cardinality constrains the maximum number of component products to be added by the configurator.

45. (Previously Presented) The object oriented configurator in claim 43, wherein

the cardinality comprises a default cardinality, and
the default cardinality defines a quantity of the component product class added by the configurator.

46. (Previously Presented) The object oriented configurator in claim 41 wherein the customizable class rule, and customizable UI are subclasses of the customizable product class.

47. (Previously Presented) The object oriented configurator in claim 41, wherein

the component product class comprises a static attribute, and

the static attribute is not inherited from a parent class.

48. (Original) The object oriented configurator in claim 41 wherein the attribute is of type string, number, date, and Boolean.

49. (Previously Presented) The object oriented configurator in claim 41 further comprising a second customizable product class.

50. (Previously Presented) The object oriented configurator in claim 49 wherein the second customizable product class comprises one or more component products of the component product class.

51. (Previously Presented) The object oriented configurator in claim 41 wherein a component product of the component product class includes an expression to restrict the component product from becoming a subclass of the customizable product class.

52. (Previously Presented) The object oriented configurator in claim 41 further comprising:

a script configured to communicate with another application.

53. (Original) The object oriented configurator in claim 41 wherein the customizable UI includes a theme, group, and control.

54. (Previously Presented) The object oriented configurator in claim 41 wherein the theme includes one or more of a tab, wizard, font, and color.

55. (Original) The object oriented configurator in claim 41 wherein the control includes one or more of a drop down box, a radio button, and a list box.

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56. (Original) The object oriented configurator in claim 41 wherein the customizable UI map comprises HTML, JAVA applets, and ActiveX components.

57. (Original) The object oriented configurator in claim 41 wherein each component product class has an unique identifier, the unique identifier is used to locate an associative component product.

58. (Original) The object oriented configurator in claim 41 further comprising link items.

59. (Currently Amended) An apparatus comprising:

a processor;

means for generating a customizable product configurator **using the processor,**

said means for generating comprising

means for creating a customizable product class, wherein

the customizable product class comprises a set of one or more

attributes to define the customizable product class;

means for adding a component product class to the customizable product class, wherein

the component product class is a subclass of the customizable

product class, **and**

the component product class comprises customizable class rules;

and

means for mapping a customizable UI to the customizable product class,

wherein

the customizable UI provides an access structure to the configurator,

elements of the customizable UI access structure correspond to

elements of the customizable product class,

the customizable product class is configured to represent a
customizable consumer product, and
the component product class is configured to represent one or more
components of the customizable consumer product.

60. (Previously Presented) The apparatus of claim 59 wherein the component product class includes component product subclasses.

61. (Previously Presented) The apparatus of claim 59 wherein the component product class inherits the attributes of the customizable product class.

62. (Previously Presented) The apparatus of claim 59 wherein said means for generating further comprises:
means for adding one or more component product classes to a port; and
means for adding the port to the customizable product class, wherein
the port allows the configurator to classify a group of component products.

63. (Previously Presented) The apparatus of claim 62, wherein
the port comprises a cardinality attribute, and
the cardinality attribute constrains the number of component products to be added
by the configurator.

64. (Previously Presented) The apparatus of claim 63, wherein
the cardinality attribute comprises a minimum cardinality and a maximum
cardinality,
the minimum cardinality constrains the minimum number of component products
to be added by the configurator, and

the maximum cardinality constrains the maximum number of component products to be added by the configurator.

65. (Previously Presented) The apparatus of claim 63, wherein the cardinality attribute comprises a default cardinality, and the default cardinality defines a quantity of the component product class added by the configurator.

66. (Previously Presented) The apparatus of claim 59 wherein the means for mapping comprises:
means for building the customizable UI from a set of themes, groups, and controls.

67. (Previously Presented) The apparatus of claim 66 wherein a theme of the set of themes, groups, and controls comprises one or more of tabs and wizards.

68. (Previously Presented) The apparatus of claim 66 wherein each theme in the set of themes, groups, and controls comprises at least one of a set of background colors, fonts, and multi-linguals.

69. (Canceled)

70. (Previously Presented) The apparatus of claim 66 wherein a control of the set of themes, groups, and controls comprises one or more of a drop down box, a radio button, and a list box.

71. (Previously Presented) The apparatus of claim 59 wherein the means for generating further comprises:
means for generating a user interface for a component product class using the customizable UI.

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72. (Previously Presented) The apparatus of claim 59 wherein the customizable UI is a subclass of the customizable product class.

73. (Previously Presented) The apparatus of claim 59 wherein the means for generating further comprises:

means for generating a configurator user interface with HTML, Applets, and
ActiveX programming languages, wherein
the means for generating uses the customizable UI.

74. (Previously Presented) The apparatus of claim 59, wherein
the component product class comprises a static attribute, and
the static attribute is not associated with a parent class.

75. (Currently Amended) The apparatus of claim 59 wherein the component product class, customizable class rules, and customizable UI ~~class~~ are object oriented classes.

76. (Previously Presented) The apparatus of claim 59 wherein the customizable product has an object oriented structure.

77. (Previously Presented) The apparatus of claim 59 wherein the customizable product includes versioning.

78. (Previously Presented) The apparatus of claim 59 wherein the configurator is stored in a data store.

-- The End --

Examiner's Statement of Reason(s) for Allowance

3. Claims 1-10, 12-30, 32-68, 70-78 are allowed.

4. The following is an examiner's statement of reasons for allowance:

The prior arts of record: **Dardinski et al.**, teaches a method that provides improved apparatus for configuring process, environmental, industrial and other control systems. Such apparatus employs "appearance" objects (or other data and/or programming constructs) defining the appearance of configurable system components in graphical editors or other views in which the components may be depicted. **Branson et al.**, teaches an object oriented framework mechanism for customization of object oriented frameworks provides an infrastructure that embodies the steps necessary to customize a selected object oriented framework (referred to herein as an "input framework"). Combining core functions provided by the framework with extensions provided by the framework consumer (i.e., user), results in a framework customization environment. **Geller et al.**, teaches a method of generating a user product configuration program module from a development environment. The user product configuration program module includes user controls that allow user input of information for use in configuration computations. Methods are disclosed for creating and maintaining the logic for a configuration program module in the form of configuration parameters; creating and maintaining the visual controls and user interface; and linking created visual controls with underlying structure represented by the parameters. **Strevey et al.**, teaches a computer based method of collecting, structuring, and displaying product configuration information, and using the product configuration information to produce a computer program that validates product option selections and configures a product, is disclosed. New art made of record: US Patent No. 5,630,025, by **Dolby et al.**, teaches a generalized configuration expert system for generating a complete, legal, and near-optimal configuration for any complex system

consisting of multiple components is disclosed; the system allows a developer to specify a configurator framework for solving a particular configuration problem. US Patent No. 6,779,155, by Bahrs et al., teaches a method and apparatus in a data processing system for displaying a graphical user interface. A container is displayed in a graphical user interface from a set of containers, wherein a display of the container handled by a view controller from a set of view controllers; each view controller handles the display of an associated container within the set of containers and user input for the associated container. However, none of them, taken alone or in combination, teaches generating a customizable product configurator, said generating comprising: creating a customizable product class, wherein the customizable product class comprises a set of one or more attributes to define the customizable product class; adding a component product class to the customizable product class, wherein the component product class is a subclass of the customizable product class, and the component product class comprises customizable class rules; and mapping a customizable user interface (UI) to the customizable product class, wherein the customizable UI provides an access structure to the customizable product configurator, elements of the customizable UI access structure correspond to elements of the customizable product class, the customizable product class is configured to represent a customizable product, and the component product class is configured to represent one or more components of the customizable product., in such a manner as recited in independent claims 1, 21, and 59. And an object oriented configurator comprising a processor and a memory, a component product class, wherein the component product class is a subclass of the customizable product class, and the component product class inherits a set of one or more attributes from the customizable product class; and a customizable UI, wherein the customizable UI is mapped to the customizable product class providing a view of the component product, the customizable UI provides an access structure, the customizable product class is configured to represent a customizable product, and the component product class is configured to

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represent one or more components of the customizable product; as recited in independent claim 41 (see REMARKS dated 10/17/2006, pages 16-18).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Ching Chow whose telephone number is 571-272-3693. The examiner can normally be reached on 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chih-Ching Chow
Examiner
Art Unit 2191
January 19, 2007

CC

Mary Huelson
Primary Examiner 1.22.07